

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) An apparatus for short flange forming, the apparatus comprising:
 - a nest for holding a first sheet material;
 - a robotic arm operatively associated with said nest; and
 - a positional pressure forming steel assembly operatively associated with said robotic arm for forming a short flange on a sheet material[[.]], said positional pressure forming steel assembly including a cylinder supporting a hub for relative sliding movement and a biasing element operatively disposed between said cylinder and said hub.
2. (Cancelled)
3. (Cancelled)
4. (Cancelled)
5. (Currently Amended) The apparatus of Claim [[4]] 1 wherein said biasing element is a spring.

6. (Currently Amended) The apparatus of Claim 1 wherein said positional pressure forming steel assembly comprises an extension extending outwardly therefrom and a tool steel disposed on an end of said extension.

7. (Currently Amended) The apparatus of claim 6 wherein said robotic arm rotatably supports said positional pressure forming steel assembly.

8. (Currently Amended) The apparatus of Claim 7 wherein said positional pressure forming steel assembly further comprises a second extension extending outwardly therefrom and a second tool steel disposed on an end of said second extension.

9. (Currently Amended) The apparatus of Claim 6 wherein said extension comprises a tiered extension having said a first tool steel disposed on an outer portion of said extension and a second tool steel disposed on an inner portion of said extension.

10. (Currently Amended) The apparatus of Claim 1 wherein said positional pressure forming steel assembly comprises a roller rotatably supported on an end thereof.

11. (Cancelled)

12. (Currently Amended) The apparatus of claim 10 wherein said nest comprises a guide surface, said roller selectively engagable with said guide surface to orientate said positional pressure forming steel assembly with respect to said nest.

13. (Currently Amended) The apparatus of claim 1 wherein said robotic arm rotatably supports said positional pressure forming steel assembly.

14. (Currently Amended) An apparatus for forming and joining a first sheet material to a second sheet material, the first sheet material having a periphery, the periphery having a contour, the apparatus comprising:

a nest for holding [[a]] said first sheet material, said nest including a material-contacting portion;

a forming and joining assembly operatively associated with said nest, said assembly including a robotic arm and a positional pressure forming steel assembly operatively associated with said robotic arm, said positional pressure forming steel assembly having a cylinder supporting a hub for relative sliding movement, a biasing element operatively disposed between said cylinder and said hub and having a tool steel which forms a short flange on said first sheet material by bending said short flange onto said second sheet material between said tool steel and said material contacting portion; and

a computer having a tool-driving program operatively associated with said forming and joining assembly.

15. (Cancelled)

16. (Cancelled)

17. (Cancelled)

18. (Currently Amended) The apparatus of Claim [[17]] 14 wherein said biasing element is a spring.

19. (Currently Amended) The apparatus of Claim 14 wherein said positional pressure forming steel assembly comprises an extension extending outwardly therefrom and said a tool steel disposed on an end of said extension.

20. (Currently Amended) The apparatus of claim 19 wherein said robotic arm rotatably supports said positional pressure forming steel assembly.

21. (Currently Amended) The apparatus of Claim 20 wherein said positional pressure forming steel assembly further comprises a second extension extending outwardly therefrom and a second tool steel disposed on an end of said second extension.

22. (Currently Amended) The apparatus of Claim [[14]] 19 wherein said extension comprises a tiered extension having said a first tool steel disposed on an

outer portion of said extension and a second tool steel disposed on an inner portion of said extension.

23. (Currently Amended) The apparatus of Claim 14 wherein said positional pressure forming steel assembly comprises a roller rotatably supported on an end thereof.

24. (Cancelled)

25. (Currently Amended) The apparatus of claim 23 wherein said nest comprises a guide surface, said roller selectively engagable with said guide surface to orientate said positional pressure forming steel assembly with respect to said nest.

26. (Currently Amended) The apparatus of claim 14 wherein said robotic arm rotatably supports said positional pressure forming steel assembly.

27. (Cancelled)

28. (Cancelled)

29. (Cancelled)

30. (Cancelled)

31. (Cancelled)

32. (Cancelled)

33. (Cancelled)

34. (Cancelled)

35. (New) The apparatus of Claim 10 wherein said forming steel assembly further comprises:

an extension extending outwardly from said hub in a direction perpendicular to an axis of rotation of said roller; and
a tool steel disposed on an end of said extension.

36. (New) The apparatus of claim 35 wherein said tool steel has a wedged face shape formed in a face thereof.

37. (New) The apparatus of Claim 14 wherein said forming steel assembly further comprises an extension extending outwardly from said hub in a direction perpendicular to an axis of rotation of said roller and supporting said tools steel on an end of said extension.

38. (New) The apparatus of claim 38 wherein said tool steel has a wedged face shape formed in a face thereof.

39 (New) The apparatus of claim 38 wherein said wedged face shape corresponds to a preformed shape of said short flange.